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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

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### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

M/023/0004  
0002

September 15, 2009

Bruce Newell  
Ash Grove Cement Company  
PO Box 38069  
Leamington, Utah 84538

Subject: Second Review of Notice of Intention to Commence Large Mining Operations, Ash Grove Cement Company, Leamington Cement Plant, M/023/0004, Juab County, Utah

Dear Mr. Newell:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations for the Leamington Cement Plant, which was received July 21, 2008. The attached comments will need to be addressed before approval can be granted.

I apologize for the delay in responding to your submittal.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. We will ask that you send us two clean copies of the complete and corrected plan. Upon final approval of the permit, we will return one copy stamped "approved" for your records.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. If you have any questions in this regard please contact me at (801) 538-5261, or the lead Wayne Western at (801) 538-5263, or the reviewers Leslie Heppler at (801) 538-5257, or Tom Munson at (801) 538-5321. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker  
Minerals Program Manager

PBB:lah:vs  
Cc: josh.nelson@ashgrove.com  
Attachment: Review  
P:\GROUPS\MINERALS\WP\M023-Juab\M0230004-Leamington\final\REV2-2543-08102009b.doc



0002

**SECOND REVIEW OF NOTICE OF INTENTION  
TO COMMENCE LARGE MINING OPERATIONS**

**Ash Grove Cement Company  
Leamington Cement Plant**

**M/023/0004  
September 15, 2009**

**General Comments:**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	Page vi. 3.	2H:1V is not 63.4 degrees, revise to correct text 2V:1H	lah	

**R647-4-104 - Operator's, Surface and Mineral Ownership**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
2	104-1	Change to new mail address	lah	

**R647-4-105 - Maps, Drawings & Photographs**

**105.1 - Topographic base map, boundaries, pre-act disturbance**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
3	Base Map	Permit boundary line is open ended on the northeast and southwest part of the map, either submit another scale map with the boundary or add the line on the map, if it happens to be at the edge of the map.	lah,	

**105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
4	Geologic map	Geologic Control Map has no geology on the map; it is a location map where geologic information has been acquired. Please submit a color copy of the Champlin geologic map that was in the 2000 permit.	lah	
5	Pg 105-7 Last para	Drawing 4-106-1 shows the location of one cross section, but there are three cross sections in Figures 4-106.9-1A, B, and C. The Division has not been able to locate a map showing the locations of these cross sections.	Lah and pbb	

**R647-4-107 - Operation Practices**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
6	Pg 107.4 thru 107.7	FYI only - Straw or hay bales generally do not work well, so DOGM prefers that stone check dams are used with a gradation of 6 to 24-inch rock, well keyed in, and constructed to allow for a spillway.	Tm and lah	

**R647-4-109 - Impact Assessment**

**109.4 - Slope stability, erosion control, air quality, safety**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
7	Page 109-2	Appendix 15 should either be modified to include the pit expansion area, as the orientation of geologic units varies toward the new expansion area, or a new report should be submitted that includes the expansion area. The analysis should include stereonets for each pit wall and should be stamped by the geotechnical engineer of record. It is not clear if the bedding of the shale is such that a 45-degree slope angle would be appropriate on all slope walls.		
8	Pg 109.2 & 2.5 all bullets	Include H and V when discussing slope angle.	lah	
9	Pg 109.2 & 2.5 all bullets	The term "may be stable" needs to be reworded. The Geotechnical Engineer of record should not be designing to a "may be" standard. Please include the FOS (Factor of Safety) for the recommended pit walls.	lah	
10	Page 109.2 .5 Bullet 2	The plan contains the phrase, "if blast damage reduction can be implemented and rockfall prevention is successful". Blast damage can always be eliminated, but it depends on the dollar amount spent. Rockfall can be designed for using software such as CRSP. Please rewrite this section. Blasting and rockfall problems need to be mitigated prior to mining.	lah	
11	Page 109.2 .5 Bullet 3	As noted "Chisolm shale may be stable with 2:1 (26.6 degree)". Add H to V letters to the slope, and please be consistent in the order in which horizontal and vertical are used (do not mix metric and English units). If the slope "may be" stable at 26.6 degrees, the 45 degree slope angle is not appropriate. Please rewrite and include the FOS.	lah	

**R647-4-110 - Reclamation Plan**

**110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed**

Comm ent #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
12	Page 110-1, highwalls section	This section mentions a slope of 2H:21V which appears to be a typographical error.	PBB	
13		The plan provides the updated calculations for the 100-year, 6 hour event in Appendix 13 and references a reclamation watershed map, but this map could not be found. Please submit this map. It also is apparent there is a large drainage which empties into pond #4. Please describe and provide the designs of how this pond will act as a flow-through structure and how it be designed to handle all the flow from this large watershed flowing reclamation.	TM	
14	Pg 110 -1 para 4	As written ... "shales will not exceed slopes of 2H:21V". Rewrite and include a statement that notes the mining high wall will be the final reclamation highwall.	lah	

**110.3 - Description of facilities to be left (post mining use)**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
15	Pg 110-5 para 1	Please commit to re-contouring and pushing down the slopes of the facilities site and other areas, such as the area around the conveyor belts, to 2H:1V.	lah	

**R647-4-112 - Variance**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
16		The operator requested that approved variances for final highwall slope design be extended through the expansion area. The final highwall slopes would be 1H:2V (approximately 66 degrees) on limestone slopes. The shale slopes will be reclaimed to a 1H:1V slope (approximately 45 degrees). To grant the variance for the pit expansion area, the Division needs either a modified slope stability analysis or a new report is needed as noted in comment 7 above.	whw	
17	Pg 111-5 Para 1 & Pg 112-2 para 2	Last sentence notes the shale highwall will be 45 degrees or less. Does that include the Chisholm shale? Same comment from 112-2 where S1 and S2 are listed as 2H:1V. Delete the word "likely" in the geotechnical study. As noted an analysis was done for rotational shear, yet there is no mention of a toppling failure or a bedding plane failure analysis. The geotechnical study should include both.	lah	
18	Pg 111-5 para 2 & Pg 112-1.5	Two 12-foot-wide roads will remain after reclamation for access by the landowner. Please show these roads on the reclamation map and note the width of 12 feet.	lah	

**R647-4-113 – Surety**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
19		The Division requests that the reclamation cost information be submitted in a form that the Division has developed. The Division will supply a hard and electronic copy of the format. The Division needs this information in order to update the reclamation cost estimates.	whw	